

**MR-2000 Series**  
**MAGNETIC STRIPE READER**  
**USER'S MANUAL**

Rev. : C

## I. FEATURES

- Double or triple tracks as indicated in MODEL IDENTIFICATION
- Built-in keyboard wedge interface or RS-232 interface or USB interface as indicated in MODEL IDENTIFICATION
- Built-in decoder
- Dual directional operation
- Interface cable included
- Heavy duty die cast case
- 3 tracks type MSR can read also AAMVA and CA DMV card

### FCC NOTICE

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with limits for a Class A digital device pursuant to subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures to correct the interference.

### WARRANTY LIMITS

Warranty will terminate automatically when the equipment is opened by any person other than the authorized technicians. The user should consult his/her dealer for the problem happened. Warranty voids if the user does not follow the instructions in application of this merchandise. The manufacturer is by no means responsible for any damage or hazard caused by improper application.

The hardware utility program, including instructions for its use, is provided "AS IS" without warranty of any kind. Posiflex Technologies, Inc. further disclaims all implied warranties including without limitation any implied warranties of merchantability or of fitness for a particular purpose. The entire risk arising out of the use or performance of the software and documentation remains with you.

### ABOUT THIS MANUAL

This manual is written in an attempt with full strength to assist the user to utilize the stand-alone magnetic stripe reader MR2000 series of Posiflex POS products. This series of products provide excellent flexibility and reliability in application. This manual covers both operational and technical aspects of these units.

The manufacturer of the MR2000 series heartily apologizes to the user for reserving the right to change or to modify this manual without notice due to the rapid and constant progress and improvement on science and technology. The user may always obtain the most up to date information through any of our web sites: <http://www.posiflex.com> or <http://www.posiflex.com.tw> or <http://www.posiflexusa.com>.

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## II. MODEL IDENTIFICATIONS

Applicable tracks \ Interface	PS/2 KB wedge	RS232	USB
ISO track 1 & 2	MR2000-2	MR2000R-2	MR2000U-2
ISO track 2 & 3	MR2000-2/3	MR2000R-2/3	MR2000U-2/3
ISO track 1 & 2	MR2000-3	MR2000R-3	MR2000U-3
JIS track I & II	MR2000-JIS	(N. A.)	(N. A.)

## III. SPECIFICATIONS

### ● Reader specification

Applicable card type	ISO 7811	JIS X 6302
Card feed method		
Card feed direction		
Read / write function		
Card feed speed	5 to 55 inches/sec.	100 ~ 1200 mm/sec.
Error rate	Less than 0.5%	Less than 0.1%

### ● Card data format

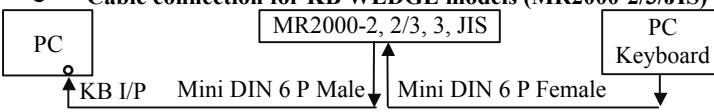
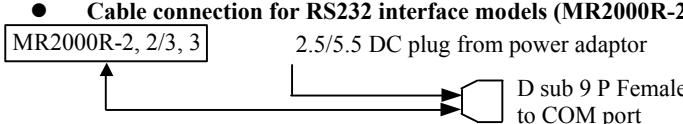
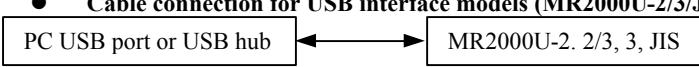
Data standard	IATA	ABA	THRIFT	JIS I	JIS II
Track used	Track 1	Track 2	Track 3	(Track 2)	Rear side
Applicable to models					MR2000-JIS MR2000U-JIS
MR2000-2, 2/3, 3 MR2000R-2, 2/3, 3 MR2000U-2, 2/3, 3					
Recording method					F <sup>2</sup> F (FM)
Recording density					210 BPI
Recording capacity characters / bits					40 / 5
79 / 7					107 / 5
40 / 5					40 / 5
72 / 7					

**Note 1:** AAMVA and CA DMV standards are supported in 3 track ISO models

**Note 2:** For 2 track ISO readers like MR2000-2 or MR2000U-2/3 info about the missing track in above table is not applicable

- Dimensions: 14.5 cm (L) X 4.6 cm (W) X 3.4 cm (H)
- Weight: 490 gm
- LED: dual color -- green for good read or ready to read  
red for invalid read
- Rated voltage: 5 VDC
- Rated current: 100 mA max.

#### IV. CABLE CONNECTION GUIDE

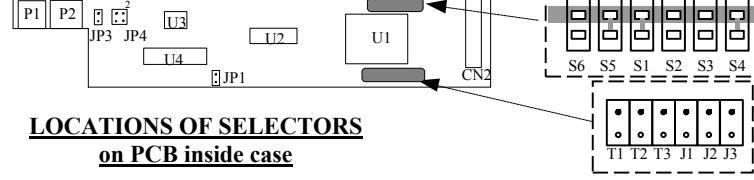
- Cable connection for KB WEDGE models (MR2000-2/3/JIS)
 
- Cable connection for RS232 interface models (MR2000R-2/3)
 
- Cable connection for USB interface models (MR2000U-2/3/JIS)
 

#### V. ADJUSTABLE PARAMETERS

Some parameters in readout format of the MR-2000 series in PS/2 KB interface and USB interface can be controlled by software downloaded from our web site: <http://www.posiflex.com>. However, saved parameters must be retrieved after power off and on under proper arrangement for the PS/2 KB interface model while for USB models parameters are automatically saved even after power off and on. It is also possible to adjust some parameters with modification in hardware described below if not by software. Please note that the individual track enable mentioned applies only when the track is supported in physical reader head.

- For MR2000-2, 2/3, 3 and MR2000R-2, 2/3, 3:

Changing the status of each jumper in the lower dotted area at right that is the enlarged image of the shaded area on the control PCB determines parameters illustrated in the table below. For MR2000R-2, 2/3, 3, the communication protocol is default at 9600 bps, none parity, 8 data bits, 1 stop bit.



**LOCATIONS OF SELECTORS on PCB inside case**

Table 1

FUNCTION & JUMPER STATUS	LEADING / STOP CODE J1	ALT + NUM J2	TRACK 1 T1	TRACK 2 T2	TRACK 3 T3
SHORT	DISABLED	DISABLED	ENABLED	ENABLED	ENABLED
OPEN	ENABLED	ENABLED	DISABLED	DISABLED	DISABLED
DEFAULT	OPEN	DEPENDS	SHORT	SHORT	SHORT

- For MR2000U-2, 2/3, 3

Changing the jumper status on the control PCB inside die cast case determines parameters illustrated in the table below.

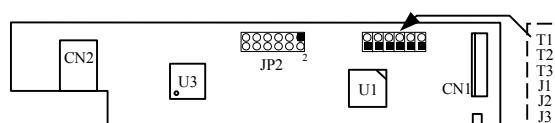


Table 2

FUNCTION	JUMPER	SHORT	OPEN	DEFAULT
LEADING / STOP CODE	J1	DISABLED	ENABLED	OPEN
ALT + NUM	JP2, PIN 1-2	DISABLED	ENABLED	SHORT
INIT NUM LOCK	JP2, PIN 3-4	DISABLED	ENABLED	SHORT
CLASS	JP2, PIN 7-8	HID	VENDOR	SHORT
OS	JP2, PIN 9-10	WINDOWS / LINUX	DOS	SHORT
TRACK 1	T1	ENABLED	DISABLED	SHORT
TRACK 2	T2	ENABLED	DISABLED	SHORT
TRACK 3	T3	ENABLED	DISABLED	SHORT

**Note 1:** To use the USB interface MSR in operating system without USB support, please set USB keyboard enabled in BIOS (CMOS) setup.

**Note 2:** Since this USB interface MSR works as a USB keyboard which is a normal HID (Human Interface Devices) in USB classification, no special driver shall be required. However, it should be set as vendor class for Linux system and special driver is required.